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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 10/600,420 | 06/19/2003 | Jiyang Yan | DP-308706 | 7012 |
| 22851 | 7590 | 08/01/2005 | EXAMINER | |
| DELPHI TECHNOLOGIES, INC. | | | HAILEY, PATRICIA L | |
| M/C 480-410-202 | | | ART UNIT | |
| PO BOX 5052 | | | PAPER NUMBER | |
| TROY, MI 48007 | | | 1755 | |

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,420

Applicant(s)

YAN, JIYANG

Examiner

Patricia L. Hailey

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 19-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/19/03 & 12/19/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-18 in the reply filed on May 2, 2005, is acknowledged.

Applicant has also requested the cancellation of non-elected claims 19-26. While this is acknowledged, Applicant is respectfully requested to provide a complete copy of the pending claims – including an indication that claims 19-26 are cancelled – in response to this Office Action.

Claims 1-18 are under consideration by the Examiner.

2. Claims 19-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method for making a catalytic element (claims 19-22), a nonelected catalytic element (claims 23 and 24), a nonelected catalytic element (claim 25), and a nonelected catalyzed particulate filter (claim 26), there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. *Claims 1-4, 6-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Canadian Patent No. 2,299,602 (hereinafter "the Canadian Patent").*

The Canadian Patent discloses a method for producing a catalyst material ("catalytic element") by providing a powdered aluminum oxide stabilized with basic oxides as support material, impregnating the support material with a solution of at least one precursor compound of alkaline earth and rare earth metals ("first slurry"), drying the impregnated support material and calcining it at temperatures below 800°C, repeating the aforementioned impregnation and drying steps until the desired loading with basic oxides is achieved; additional impregnation of the obtained material with a solution of precursor compounds of catalytically active noble metals ("second slurry"), and finally drying and calcining. See page 6, lines 10-25 of the Canadian Patent.

The stabilized aluminum oxide is preferably aluminum oxide doped with 1 to 10 wt. % lanthanum oxide ("doped aluminum oxide", "lanthanum doped aluminum oxide"). See page 7, lines 3-23 of the Canadian Patent, as well as page 8, line 25 to page 9, line 19, which discloses that the aluminum oxide may be doped with additional basic oxides such as those of magnesium, calcium, strontium, barium, cerium, praseodymium, neodymium, samarium, europium, terbium, and ytterbium (page 9, lines 11-19; "promoter oxide precursor").

Examples of the catalytically active noble metals include platinum, palladium, rhodium, and iridium. See page 10, lines 3-11 of the Canadian Patent, which also discloses the concentrations thereof, with respect to the total weight of catalyst material.

Example 1 of the Canadian Patent depicts an embodiment of Patentees' catalyst material, wherein an aluminum oxide stabilized with lanthanum oxide ("support material 1", see page 13, lines 22-26) is mixed with cerium/zirconium mixed oxide, and impregnated with platinum and palladium, and the impregnated mixture is dried and calcined. Next, the powder is stirred with water to give an aqueous suspension, and milled to a particle size of 3 to 5 μm . The solids in the dispersion were applied to a support structure (e.g., a cordierite honeycomb structure) using an immersion method, followed by aging for 4 hours at 1100°C in an atmosphere of nitrogen, water, and oxygen (considered to read upon the last two steps in Applicants' claim 1). See also page 16, lines 3-11 and page 17, lines 7-21 of the Canadian Patent.

The claim limitations regarding (1) the pore size ratios between the catalyst composition and the substrate, (2) the increase in balance point temperature, (3) penetration of the inlet wall of the substrate by the catalyst composition, and (4) the catalyst composition content at the outlet wall of the substrate, are all considered inherently encompassed by the Canadian Patent, in view of the teachings therein, and in view of Applicant's claim recitations "less than or equal to".

In view of these teachings, the Canadian Patent anticipates Applicant's claims 1-4, 6-16, and 18.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. *Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canadian Patent No. 2,299,602 (hereinafter "the Canadian Patent").*

The Canadian Patent is relied upon for its teachings in the above 102(b) rejection. Additionally, Example 1 of the Canadian Patent discloses a loading concentration of 160 g of catalyst material per liter of honeycomb structure volume (page 16, lines 12-19).

It is noted that Example 1 of the Canadian Patent is merely a preferred embodiment of Patentees' invention. Further, the Canadian Patent at page 10, lines 3-11 teach that the noble metals may be applied via known impregnation techniques and may be deposited individually or in various combinations and mixing ratios at

concentrations of 0.01 to 5 wt. %, with respect to the total catalyst metal. Armed with these teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ concentrations within Patentees' percentage range, and obtain a catalyst loading within that respectively claimed by Applicant. Further, the loading concentration disclosed in Example 1 of the Canadian Patent is merely a preferred embodiment, and is thus not construed to be Applicant's only loading concentration. Teachings of a reference are not limited to a preferred embodiment. In re Boe, 145 U.S.P.Q. 507 (CCPA 1966).

Conclusion

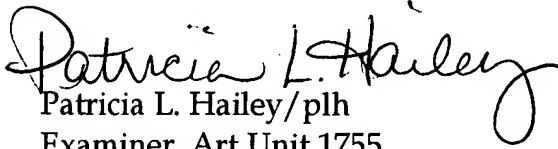
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

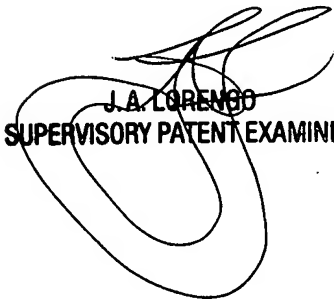
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Patricia L. Hailey/plh
Examiner, Art Unit 1755
July 18, 2005


J.A. LORENZO
SUPERVISORY PATENT EXAMINER